03-0290

DuPage County Health Department

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Nike C-70
SF/tech

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Director, Environmental Health Services

January 24, 2003

Peter Burchard
City Manager
City Of Naperville
400 S. Eagle
Naperville, Il 60566

RE: Knights Subdivision – Public Water Source

Dear Mr. Burchard:

The DuPage County Health Department believes that the residents within and adjacent to Knights Subdivision with private wells as the source of their water supply are at risk due to TCE groundwater contamination.

The presence of TCE was initially identified in groundwater on the property that was once the Army Nike C70 site. When it was realized that there were residential wells adjacent to the site, the Army Corps of Engineers initiated sampling of these wells. Water sample testing indicates that TCE levels above the Federal Drinking Water Standards have been found in water wells in Knights Subdivision as well as in the groundwater north, south and west of Knights Subdivision. Furthermore, the level of TCE found in both private and sampling wells in and around Knights Subdivision is increasing as time goes on.

The Health Department feels that the supply of water from a public water system for the people now utilizing private wells in the Knight Subdivision, and adjacent areas, is the best solution to eliminating the health risk from contaminated groundwater. Attached is information on TCE.

If you have any questions or need additional information, please contact Les Bant at (630) 682-7979 extension 5310.

Chemical Database - Response Information Data Sheet

Preferred Name: TCE

Regulatory Name: 1,1,2,2-TETRACHLOROETHANE

Chemical Source: NOEPA **NOAA #:**1568

NFPA Codes **F:**
H:
R:
S:

General Description
Physical State Shipped: Liquid

Odor: Sweet odor

Color: Colorless to pale yellow

Characteristics in Water: Sinks in water. (USCG, 1999)

Fire Hazard
Special Hazards of Combustion Products: Irritating hydrogen chloride vapor may form in fire. (USCG, 1999)

Fire Fighting
SMALL FIRES: Dry chemical, CO2 or water spray. LARGE FIRES: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire control water for later disposal; do not scatter the material. Do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from the ends of tanks. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (DOT, 1996)

Protective Clothing
Skin: Wear appropriate personal protective clothing to prevent skin contact.
Eyes: Wear appropriate eye protection to prevent eye contact.
Wash skin: The worker should immediately wash the skin when it becomes contaminated.
Remove: Work clothing that becomes wet or significantly contaminated should be removed

and replaced.
Change: No recommendation is made specifying the need for the worker to change clothing after the work shift.
Provide: Eyewash, Quick drench (NIOSH, 1997)

MATERIAL RATINGS

CPE
FABRIC 1-3 hours

PTFE TEFLON
FABRIC > 3 hours

(NOAA, 1991)

Non-Fire Response
Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (DOT, 1996)

Health Hazard
Compound is a powerful narcotic and liver poison; may also cause changes in blood composition and neurological disturbances. Repeated exposure by inhalation can be fatal. Ingestion causes vomiting, diarrhea, severe mucosal injury, liver necrosis, cyanosis, unconsciousness, loss of reflexes, and death. Contact with eyes causes irritation and lachrymation. Can be absorbed through the skin and may produce severe skin lesions. (USCG, 1999)

Properties
Melting Point: -33° F (NTP, 1992)

Vapor Pressure: 5 mm Hg at 70° F; 6 mm Hg at 77° F (NTP, 1992)

Vapor Density: 5.79 (NTP, 1992)

Specific Gravity: 1.58658 at 77° F (NTP, 1992)

Boiling Point: 295° F (NTP, 1992)

Molecular Weight: 167.86 (NTP, 1992)

IDLH: 100 ppm; Not applicable for 1,1,2,2-Tetrachloroethane, a potential human carcinogen. (NIOSH, 1997)

Preferred Name: TCE

TLV TWA: 1 ppm Skin. (©ACGIH, 1999)

Water Solubility: <0.1 mg/mL at 72° F (NTP, 1992)

First Aid

EYES: First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.

SKIN: IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water. IMMEDIATELY call a hospital or poison control center even if no symptoms (such as redness or irritation) develop. IMMEDIATELY transport the victim to a hospital for treatment after washing the affected areas.

INHALATION: IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. IMMEDIATELY call a physician and be prepared to transport the victim to a hospital even if no symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop. Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Protective Clothing.

INGESTION: DO NOT INDUCE VOMITING. Corrosive chemicals will destroy the membranes of the mouth, throat, and esophagus and, in addition, have a high risk of being aspirated into the victim's lungs during vomiting which increases the medical problems. If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. IMMEDIATELY transport the victim to a hospital. If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. Transport the victim IMMEDIATELY to a hospital.

OTHER: Since this chemical is a known or suspected carcinogen you should contact a physician for advice regarding the possible long term health effects and potential recommendation for medical monitoring. Recommendations from the physician will depend upon the specific compound, its chemical, physical and toxicity properties, the exposure level, length of exposure, and the route of exposure. (NTP, 1992)

Reactivity:

CHEMICAL PROFILE: Decomposed by heat and UV light, forming phosgene and HCl; reacts violently with finely dispersed metals. (Handling Chemicals Safely 1980. p. 886) (REACTIVITY, 1999)